ASUS

V6-P5G31E

ASUS PC (Desktop Barebone)

User's Manual
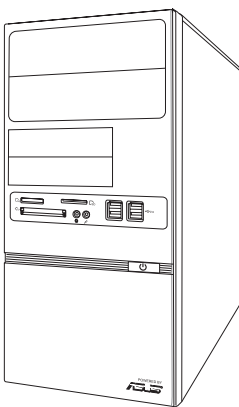
E5205

First Edition V1
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Table of contents

Table of contents

Table of contents

Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

* This device may not cause harmful interference, and
* This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* Reorient or relocate the receiving antenna.
* Increase the separation between the equipment and receiver.
* Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
* Consult the dealer or an experienced radio/TV technician for help.

> **WARNING!** The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at http://green.asus.com/english/REACH.htm.

Safety information

Electrical safety

- To prevent electric shock hazard, disconnect the power cable from the electric outlet before relocating the system.

- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.

- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.

- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.

- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.

- Before using the product, ensure that all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.

- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.

- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.

- Place the product on a stable surface.

- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

About this guide

Audience

This guide provides general information and installation instructions about the ASUS Vintage V6-P5G31E barebone system. This guide is intended for experienced users and integrators with hardware knowledge of personal computers.

How this guide is organized

This guide contains the following parts:

1.   **Chapter 1: System introduction**

      This chapter gives a general description of the ASUS V6-P5G31E. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2.   **Chapter 2: Starting up**

      This chapter helps you power up the system and install drivers and utilities from the support DVD.

3.   **Chapter 3: Motherboard info**

      This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

4.   **Chapter 4: BIOS setup**

      This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.

Conventions used in this guide

WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS Websites**

    The ASUS websites worldwide provide updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional Documentation**

    Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

System package contents

Check your V6-P5G31E system package for the following items.

If any of the items is damaged or missing, contact your retailer immediately.

Item description
1.   ASUS V6-P5G31E barebone system with
• ASUS motherboatd
• Power supply unit
• ASUS chassis
2.   Cable
• AC power cable
3.   Support DVD
4.   Quick Installation Guide

Chapter 1

This chapter gives a general description of the ASUS V6-P5G31E. The chapter lists the system features including introduction on the front and rear panel, and internal components.
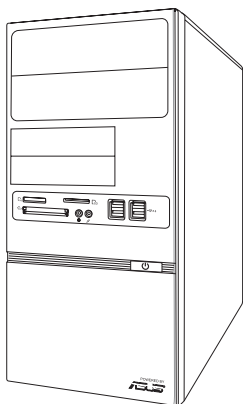
System introduction

1.1   Welcome!

Thank you for choosing the ASUS V6-P5G31E!

The ASUS V6-P5G31E is an all-in-one barebone system with a versatile home entertainment feature.

The system comes in a stylish casing and powered by the ASUS motherboard that supports the Intel® Core™2 Extreme / Core™2 Duo / Core™2 Quad / Pentium® dual-core / Celeron® processors in the 775-land package.

The system supports up to 4 GB of system memory using DDR2-1066(O.C.)/800/667 DIMMs. High-resolution graphics via integrated graphics controller or PCI Express x16 slot, Serial ATA, USB 2.0, and 6-channel audio feature the system and take you ahead in the world of power computing.

1.2   Front panel

The front panel includes the optical drive bays, power button, and several I/O ports are located at the front panel.

Front panel
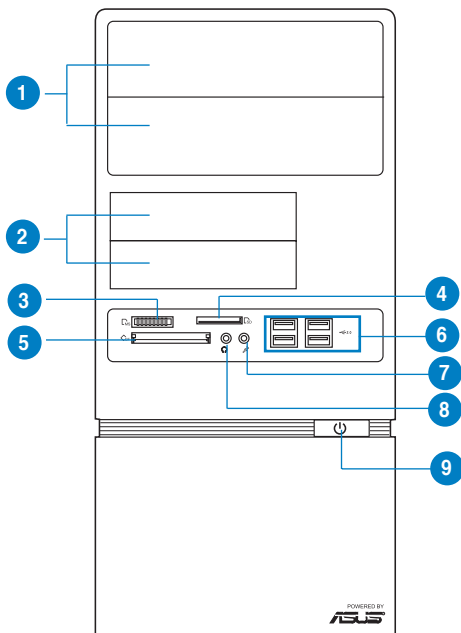
1. **Two empty 5.25-inch drive bays.** These bays are for 5.25-inch IDE/SATA optical drives.
2. **Two empty 3.5-inch drive bays.** These bays are for 3.5-inch hard disk drives.
3. **MemoryStick® / Memory Stick Pro™ card slot**
4. **Secure Digital™ / Multimedia Card slot**
5. **CompactFlash® / Microdrive™ card slot**
6. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
7. **Microphone port.** This Mic (pink) port connects a microphone.
8. **Headphone port.** This Line In (lime) port connects a headphone with a stereo mini-plug.
9. **Power button.** Press this button to turn the system on.

1.3 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.
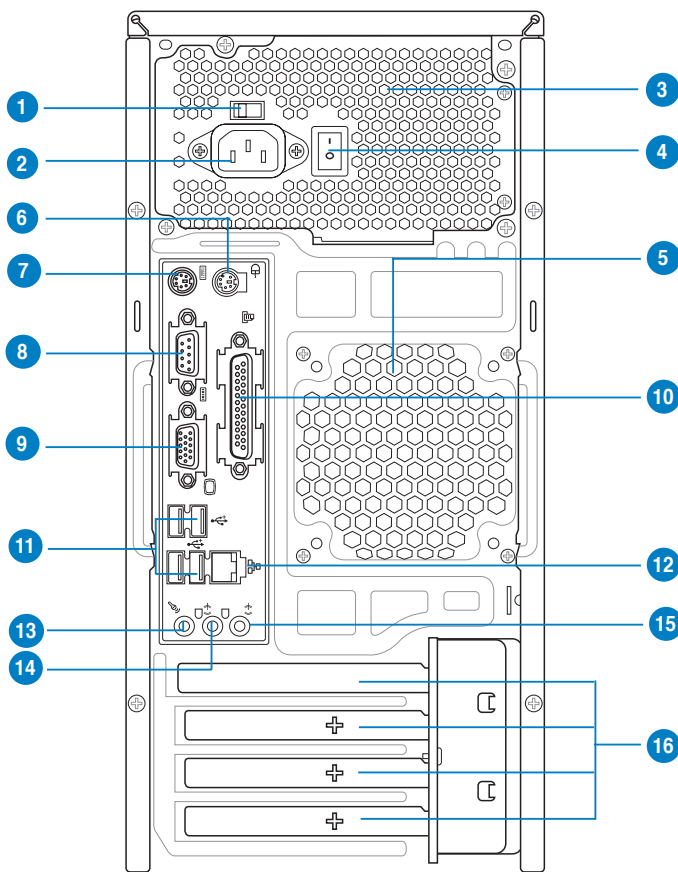
⚠️ Do NOT cover the rear vent , and the ambient temperature is limited up to 35°C to prevent the system from overheating.

1. **Voltage selector.** This switch allows you to adjust the system input voltage according to the voltage supply in your area. See the section "Voltage selector" on page 1-6 before adjusting this switch.

2. **Power connector.** This connector is for the power cable and plug.

3. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.

4. **Power Switch.** This switch is for switching on/off the power supply unit.

5. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.

6. **PS/2 mouse port.** This green 6-pin connector is for a PS/2 mouse.

7. **PS/2 keyboard port.** This purple 6-pin connector is for a PS/2 keyboard.

8. **COM port.** This 9-pin COM1 port is for pointing devices or other serial devices..

9. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.

10. **Parallel port.** This 25-pin port connects a parallel printer, a scanner, or other devices.

11. **USB 2.0 ports 1 ~ 4.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

12. **LAN (RJ-45) port.** This port allows gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

LAN port LED indications

Activity/Link		Speed LED	
Status	**Description**	**Status**	**Description**
OFF	No link	OFF	10 Mbps connection
ORANGE	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection

ACT/LINK SPEED
LED   LED

LAN port
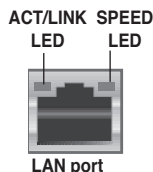
13. **Microphone port (pink).** This port connects a microphone.

14. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel and 6-channel configuration, the function of this port becomes Front Speaker Out.

15. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.

> Refer to the audio configuration table below for the function of the audio ports in 2, 4, or 6-channel configuration.

Audio 2, 4, or 6-channel configuration

Port	Headset 2-channel	4-channel	6-channel
Light Blue	Line In	Rear Speaker Out	Rear Speaker Out
Lime	Line Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Bass/Center

16. **Expansion slot covers.** Remove these covers when installing expansion cards.

Voltage selector

The PSU has a 115 V/230 V voltage selector switch located beside the power connector. Use this switch to select the appropriate system input voltage according to the voltage supply in your area.

If the voltage supply in your area is 100-127 V, set this switch to 115 V.

If the voltage supply in your area is 200-240 V, set this switch to 230 V.

115V/230V Voltage selector
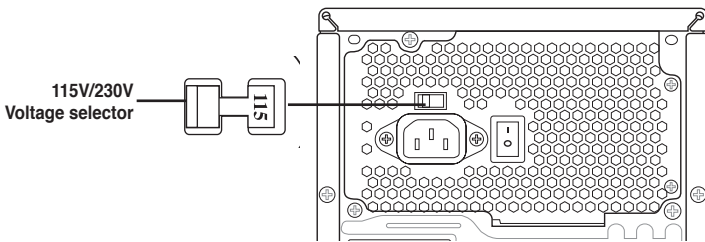
Setting the switch to 115V in a 230V environment or 230V in a 115V environment will seriously damage the system!

1.4 Internal components

The illustration below is the internal view of the system when you remove the side cover and the power supply unit. The installed components are labeled for your reference.
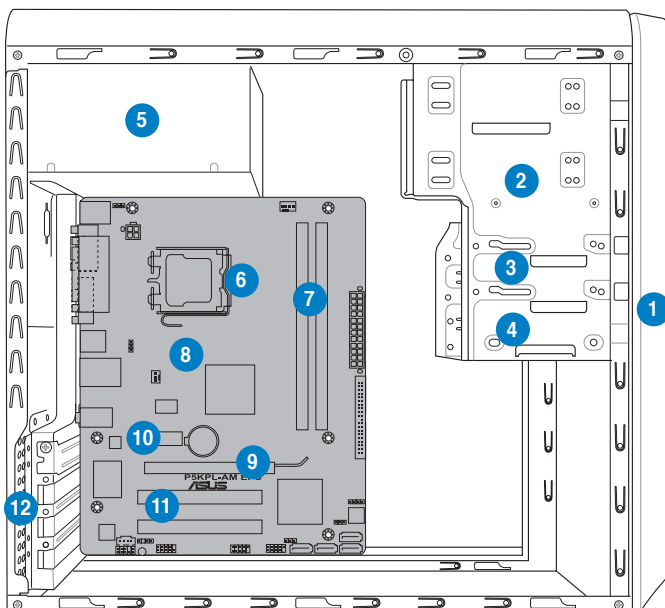
1. Front panel cover
2. 5.25-inch optical drive bays
3. 3.5-inch drive bay
4. Hard disk drive bay
5. Power supply unit
6. CPU socket
7. DIMM sockets

8. ASUS motherboard
9. PCI Express x16 slot
10. PCI Express x1 slot
11. PCI slots
12. Metal bracket lock

Refer to the bundled Quick Installation Guide for installing additional system components and get assistance from professionals when you disassemble or assemble the system.

1.5 Qualified Vendors Lists (QVL)

DDR2-1066MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
512MB	Kingston	KHX8500D2/512	N/A	Kingston	SS	Heat-Sink Package	•	•
512MB	Kingston	KHX8500D2K2/1GN	N/A	Kingston	SS	Heat-Sink Package	•	•
1G	Kingston	KHX8500D2K2/2GN	N/A	Kingston	SS	Heat-Sink Package	•	•
512MB	Apacer	78.9AG9S.9L5	5	Apacer	SS	Heat-Sink Package	•	•
1G	Apacer	78.0AG9S.BN4	5	Apacer	DS	Heat-Sink Package	•	•
1G	Corsair	CM2X1024-8500C5	N/A	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	CM2X1024-8500C5D	5	Corsair	DS	Heat-Sink Package	•	•
512MB	ADATA	M2OMIDG3H3160INC5Z	5	ADATA	SS	Heat-Sink Package	•	•
1G	ADATA	M2OMIDG314720INC5Z	5	ADATA	DS	Heat-Sink Package	•	•
512MB	AENEON	AXT660UD00-19DC97X	5	AENEON	SS	Heat-Sink Package	•	•
1G	AENEON	AXT760UD00-19DC97X	5	AENEON	DS	Heat-Sink Package	•	•
1G	OCZ	OCZ2N1066SR2DK	N/A	OCZ	DS	Heat-Sink Package	•	•
1G	OCZ	OCZ2N10662GK	N/A	OCZ	DS	Heat-Sink Package	•	•
512MB	Kingbox	EP512D21066PS	N/A	Micron	SS	6QD22D9GCT	•	•

DDR2-800MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support	
							A*	B*
2G	Apacer	78.A1GA0.9K4	5	Apacer	DS	AM4B5808CQJS8E0740E	•	
2G	PSC	AL8E8F73C-8E1	5	PSC	DS	A3R1GE3CFF734MAA0E	•	
2G	AENEON	AET860UD00-25DC08X	5	AENEON	DS	AET03R250C 0732	•	
2G	G.SKILL	F2-6400CL5D-4GBPQ	5	G.SKILL	DS	Heat-Sink Package	•	
512MB	Kingston	KVR800D2N5/512	N/A	Samsung	SS	K4T51083QC-ZCE7	•	•
512MB	Kingston	KVR800D2N5/512	N/A	Promos	SS	V59C1512804QBF25S0054707PEBPA	•	•
1G	Kingston	KVR800D2N5/1G	N/A	Samsung	SS	K4T51083QC-ZCE7	•	•
1G	Kingston	KHX6400D2LL/1G	N/A	Kingston	DS	Heat-Sink Package	•	•
1G	Kingston	KVR800D2N5/1G	N/A	Nanya	DS	NT5TU64M8BE-25C62321800CP	•	•
1G	Kingston	KHX6400D2LLK2/1GN	N/A	Kingston	DS	Heat-Sink Package	•	•
2G	Kingston	KHX6400D2K2/2G	N/A	Kingston	DS	Heat-Sink Package	•	•
512MB	Samsung	KR M378T6553CZ3-CE7	N/A	Samsung	SS	K4T51083QC-ZCE7	•	•
1G	Samsung	KR M378T2953CZ3-CE7	N/A	Samsung	DS	K4T51083QC-ZCE7	•	•
256MB	Qimonda	HYS64T32001HU-2.5-A	N/A	Qimonda	SS	HYB18T256800AF25SSS49313	•	•
512MB	Qimonda	HYS64T64020HU-2.5-A	N/A	Qimonda	SS	HYB18T256800AF25SSS25063	•	•
1G	Corsair	CM2X1024-6400	5	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	XMS2-6400	4	Corsair	DS	Heat-Sink Package	•	•
1G	Corsair	XMS2-6400	5	Corsair	DS	Heat-Sink Package	•	•
512MB	HY	HYMP564U64AP8-S6 AA	N/A	Hynix	SS	HY5PS12821AFP-S6	•	•
512MB	HY	HYMP564U64BP8-S5 AB	N/A	Hynix	SS	HY5PS12821BFP-S5	•	•
512MB	HY	HYMP564U64CP8-S5 AB	5	Hynix	SS	HY5PS12821CFP-S5	•	•
1G	HY	HYMP512U64AP8-S6 AA	N/A	Hynix	DS	HY5PS12821AFP-S6	•	•
1G	HY	HYMP512U64BP8-S5 AB	N/A	Hynix	DS	HY5PS12821BFP-S5	•	•
1G	HY	HYMP512U64CP8-S5 AB	5	Hynix	DS	HY5PS12821CFPS5	•	•
2G	Apacer	AHU02GE800C5N1C	5	Apacer	DS	Heat-Sink Package	•	•
512MB	ADATA	M20AD6G3H3160I1E58	N/A	ADATA	SS	AD29608A8A-25EG80720	•	•
512MB	VDATA	M2GVD6G3H3160I1E53	N/A	VDATA	SS	VD29608A8A-25EG30648	•	•
1G	VDATA	M2GVD6G3I4170I1E53	N/A	VDATA	DS	VD29608A8A-25EG30647	•	•
512MB	PSC	AL6E8E63B-8E1K	5	PSC	SS	A3R12E3HEF641B9A05	•	•
1G	PSC	AL7E8E63B-8E1K	5	PSC	DS	A3R12E3HEF641B9A05	•	•
512MB	AENEON	AET660UD00-25DB98X	N/A	AENEON	SS	AET93F25DB 0621	•	•
1G	AENEON	AET760UD00-25DB97X	5	AENEON	DS	AET93R25DB 0640	•	•
512MB	SIS	SLY264M8-JGE-3	N/A	SIS	SS	DDRII6408-8E 7212	•	•

DDR2-800MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support A*	DIMM support B*
1G	SIS	SLY264M8-JGE-3	N/A	SIS	DS	DDRII6408-8E 7301	•	•
512MB	TAKEMS	TMS51B264C081-805EP	5	takeMS	SS	MS18T51280-2.5P0710	•	•
1G	TAKEMS	TMS1GB264C081-805EP	5	takeMS	SS	MS18T51280-2.5P0716	•	•
512MB	VERITECH	GTU512HLTXX4EG	N/A	Veritech	SS	VTD264M8PC4G03A169045648	•	•
1G	VERITECH	GTU01GHLTXX4EG	N/A	Veritech	DS	VTD264M8PC4G03A169045648	•	•
1G	UMAX	1GB,DDR2,PC6400	5	UMAX	DS	U2S12D30TP-8E	•	•

DDR2-667MHz capability

Size	Vendor	Model	CL	Brand	SS/DS	Component	DIMM support A*	DIMM support B*
256MB	Kingston	KVR667D2N5/256	N/A	Elpida	SS	E2508AB-6E-E	•	•
256MB	Kingston	KVR667D2N5/256	N/A	Kingston	SS	D3216TLSAKL3U	•	•
256MB	Kingston	KVR667D2N5/256	N/A	Infineon	SS	HYB18T256800AF3SW65 33154	•	•
512MB	Kingston	KVR667D2N5/512	N/A	Kingston	SS	D6408TE8WL-27	•	•
512MB	Kingston	KVR667D2N5/512	N/A	Elpida	SS	E5108AGBG-6E-E	•	•
1G	Kingston	KVR667D2N5/1G	N/A	Kingston	DS	D6408TE8WL-3	•	•
1G	Kingston	KVR667D2N5/1G	N/A	Kingston	DS	D6408TEBGGL3U	•	•
1G	Kingston	KVR667D2N5/1G	N/A	Elpida	DS	E5108AGBG-6E-E	•	•
512MB	Samsung	KR M378T6553CZ0-CE6	N/A	Samsung	SS	K4T51083QC	•	•
512MB	Samsung	KR M378T6453FZ0-CE6	N/A	Samsung	DS	K4T56083QF-ZCE6	•	•
512MB	Samsung	M378T6553CZ3-CE6	N/A	Samsung	SS	K4T51083QC-ZCE6	•	•
1G	Samsung	M378T2953CZ3-CE6	N/A	Samsung	DS	K4T51083QC-ZCE6	•	•
1G	Samsung	KR M378T2953CZ0-CE6	N/A	Samsung	DS	K4T51083QC-ZCE6	•	•
256MB	Qimonda	HYS64T32000HU-3S-A	N/A	Qimonda	SS	HYB18T512160AF-3SSSS17310	•	•
512MB	Qimonda	HYS64T32000HU-3S-A	N/A	Qimonda	SS	HYB18T5128000AF-3SSSS27416	•	•
512MB	Qimonda	HYS64T64000HU-3S-A	N/A	Qimonda	DS	HYB18T512800AF3SFSS05346	•	•
1G	Qimonda	HYS64T128020HU-3S-A	N/A	Qimonda	DS	HYB18T512800AF3SSSS28104	•	•
512MB	Corsair	VS512MB667D2	N/A	Corsair	SS	64M8CFEGPS0900647	•	•
512MB	Corsair	VS512MB667D2	N/A	Corsair	DS	MIII0052532M8CEC	•	•
1G	Corsair	VS1GB667D2	N/A	Corsair	DS	MID095D62864M8CEC	•	•
1G	Corsair	XMS2-5400	4	Corsair	DS	Heat-Sink Package	•	•
256MB	HY	HYMP532U64CP6-Y5 AB	5	Hynix	SS	HY5PS121621CFP-Y5	•	•
512MB	HY	HYMP564U64AP8-Y4 AA	N/A	Hynix	SS	HY5PS12821AFP-Y4	•	•
512MB	HY	HYMP564U64AP8-Y5 AA	N/A	Hynix	SS	HY5PS12821AFP-Y5	•	•
1G	HY	HYMP512U64AP8-Y5 AB	N/A	Hynix	DS	HY5PS12821AFP-Y5	•	•
1G	HY	HYMP512U64CP8-Y5 AB	5	Hynix	DS	HY5PS12521CFP-Y5	•	•
512MB	Kingmax	KLCC28F-A8EB5	N/A	Elpida	SS	E5108AE-6E-E	•	•
512MB	Kingmax	KLCC28F-A8KB5	N/A	Kingmax	SS	KKEA88B4LAUG-29DX	•	•
1G	Kingmax	KLCD48F-A8KB5	N/A	Kingmax	DS	KKEA88B4LAUG-29DX	•	•
512MB	Apacer	78.91092.420	N/A	Elpida	SS	E5108AE-6E-E	•	•
512MB	Apacer	AU512E667C5KBGC	5	Apacer	SS	AM4B5708MIJS7E0627B	•	•
512MB	Apacer	AU512E667C5KBGC	5	Apacer	SS	AM4B5708GQJS7E06332F	•	•
1G	Apacer	AU01GE667C5KBGC	N/A	Apacer	DS	AM4B5708GQJS7E0636B	•	•
1G	Apacer	78.01092.420	5	Elpida	DS	E5108AE-6E-E	•	•
1G	Apacer	AU01GE667C5KBGC	5	Apacer	DS	AM4B5708MIJS7E0627B	•	•
512MB	ADATA	M20EL5G3H3160B1C0Z	N/A	Elpida	SS	E5108AE-6E-E	•	•
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20648	•	•
512MB	ADATA	M20AD5G3H3166I1C52	N/A	ADATA	SS	AD29608A8A-3EG20718	•	•
1G	ADATA	M2OAD5G3I4176I1C52	N/A	ADATA	DS	AD29608A8A-3EG20645	•	•
512MB	VDATA	M2GVD5G3H31A4I1C52	N/A	VDATA	SS	VD29608A8A-3EC20615	•	•
512MB	VDATA	M2YVD5G3H31P4I1C52	N/A	VDATA	SS	VD29608A8A-3EG20627	•	•

DDR2-667MHz capability

Size	Vendor	Model	CL	Brand	SS / DS	Component	DIMM support A*	DIMM support B*
512MB	VDATA	M2GVD5G3H166I1C52	N/A	VDATA	SS	VD29608A8A-3EG20637	•	•
1G	VDATA	M2GVD5G3I41P6I1C52	N/A	VDATA	DS	VD29608A8A-3EG20627	•	•
1G	VDATA	M2GVD5G3I41C4I1C52	N/A	VDATA	DS	VD29608A8A-3EC20620	•	•
1G	VDATA	M2GVD5G3I4176I1C52	N/A	VDATA	DS	VD29608A8A-3EG20641	•	•
512MB	PSC	AL6E8E63B-6E1K	5	PSC	SS	A3R12E3GEF637BLC5N	•	•
1G	PSC	AL7E8E63B-6E1K	5	PSC	DS	A3R12E3GEF637BLC5N	•	•
256MB	Nanya	NT256T64UH4A1FY-3C	N/A	Nanya	SS	NT5TU32M16AG-3C	•	•
512MB	Nanya	NT512T64U88A1BY-3C	N/A	Nanya	SS	NT5TU64M8AE-3C	•	•
512MB	MDT	MDT 512MB	4	MDT	SS	18D51280D-30648	•	•
1G	MDT	MDT 1024MB	4	MDT	DS	18D51200D-30646	•	•
1G	MDT	MDT 1024MB	4	MDT	DS	18D51280D-30646E	•	•
1G	PQI	DDR2-667U 1G	N/A	Hynix	DS	HY5PS12821BFP-E3 A	•	•
512MB	AENEON	AET660UD00-30DA98Z	N/A	AENEON	SS	AET93F30DA 0552	•	•
512MB	AENEON	AET660UD00-30DB97X	5	AENEON	SS	AET93R300B 0634	•	•
1G	AENEON	AET760UD00-30DA98Z	N/A	AENEON	DS	AET93F30DA8EE47414G 0540	•	•
1G	AENEON	AET760UD00-30DA98Z	N/A	AENEON	DS	AET93F30DA 0604	•	•
1G	AENEON	AET760UD00-30DB97X	5	AENEON	DS	AET93R300B 0639	•	•
512MB	TAKEMS	TMS51B264C081-665QI	5	takeMS	SS	MS18T51280-3	•	•
512MB	TAKEMS	TMS51B264C081-665AP	5	takeMS	SS	MS18T51280-3S0627D	•	•
1G	TAKEMS	TMS1GB264C081-665QI	5	takeMS	DS	MS18T51280-3	•	•
1G	TAKEMS	TMS1GB264C081-665AE	5	takeMS	DS	MS18T51280-3SEA07100	•	•
1G	TAKEMS	TMS1GB264C081-665AP	5	takeMS	DS	MS18T51280-3SP0717A	•	•
512MB	VERITECH	GTP512HLTM45EG	N/A	VERITECH	SS	VTD264M8PC6G01A164129621	•	•
1G	VERITECH	GTP01GHLTM55EG	N/A	VERITECH	DS	VTD264M8PC6G01A164129621	•	•
512MB	GEIL	GX21GB5300DC	4	GEIT	SS	Heat-Sink Package	•	•
512MB	TEAM	TVDD512M667C5	N/A	TEAM	SS	T2D648MT-6	•	•
1G	TEAM	TVDD1.02M667C4	N/A	TEAM	DS	T2D648PT-6	•	•
512MB	Century	CENTURY 512MB	N/A	Nanya	SS	NT5TU64M8AE-3C	•	•
512MB	Century	CENTURY 512MB	N/A	Hynix	SS	HY5PS12821AFP-Y5	•	•
1G	Century	CENTURY 1G	N/A	Hynix	DS	HY5PS12821AFP-Y5	•	•
1G	Century	CENTURY 1G	N/A	Nanya	DS	NT5TU64M8AE-3C	•	•
512MB	KINGBOX	512MB 667MHz	N/A	KINGBOX	SS	EPD264082200-4	•	•
1G	KINGBOX	DDRII 1G 667MHz	N/A	KINGBOX	DS	EPD264082200-4	•	•

SS - Single-sided / DS - Double-sided
DIMM support:
- • A*: Supports one module inserted in any slot as Single-channel memory configuration.
- • B*: Supports one pair of modules inserted into both the yellow slots as one pair of Dual-channel memory configuration.

Visit the ASUS website at www.asus.com for the latest QVLs.

Chapter 2

This chapter helps you power up the system and install drivers and utilities from the support DVD.
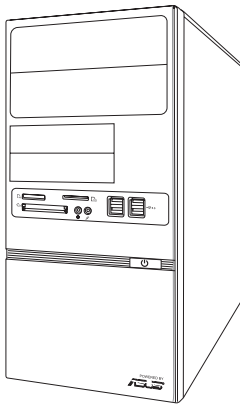
Starting up

2.1   Installing an operating system

The barebone system supports Windows® XP/Vista/7 operating systems (OS). Always install the latest OS version and corresponding updates so you can maximize the features of your hardware.

Motherboard settings and hardware options vary. Use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.

- Windows XP OS setup cannot recognize Serial ATA hard drives in a RAID set without the necessary drivers. Use a RAID driver disk when installing Windows XP OS to a Serial ATA hard drive included in a RAID set.

- From the Windows XP setup screen, press F6 when prompted then follow succeeding screen instructions to install the SATA drivers.

2.2   Powering up

Press the system power button ((b)) to enter the OS.
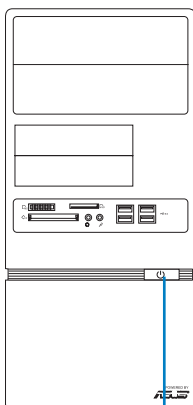
Press to turn ON the system

2.3   Support DVD information

The support DVD that came with the system contains useful software and several utility drivers that enhance the system features.

- Screen display and driver options may not be the same for different operating system versions.

- The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates.

2.3.1   Running the support DVD

To begin using the support DVD, place the DVD in your optical drive. The DVD automatically displays the Drivers menu if Autorun is enabled in your computer.
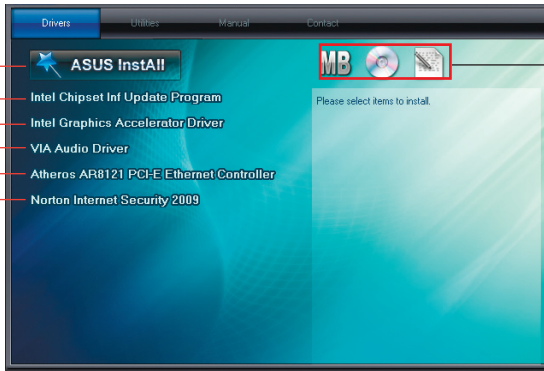
Click an icon to display support DVD/motherboard information

Click an item to install

If Autorun is NOT enabled in your computer, browse the contents of the support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.

ASUS InstAll

Launches the ASUS InstAll driver installation wizard.

Intel Chipset Inf Update Program

Installs the Intel® chipset Inf update program.

Intel Graphics Accelerator Driver

Installs the Intel® Graphics accerlerator driver.

VIA Audio Driver

Installs the VIA audio driver and application.

Atheros AR8121 PCI-E Ethernet Controller

Installs the Atheros® AR8121 PCI-E Ethernet Controller.

Norton Internet Security 2009

Installs the Norton Internet Security 2009.

2.3.2 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.

ASUS InstAll

Installs all of the utilities through the Installation Wizard.

ASUS Update

Allows you to download the latest version of the BIOS from the ASUS website.

> Before using the ASUS Update, make sure that you have an Internet connection so you can connect to the ASUS website.

ASUS PC Probe II

This smart utility monitors the fan speed, CPU temperature, and system voltages, and alerts you of any detected problems. This utility helps you keep your computer in healthy operating condition.

Atheros Ethernet Utility

Installs the Atheros® Ethernet Utility.

Adobe Reader 9

Installs the Adobe® Reader that allows you to open, view, and print documents in Portable Document Format (PDF).

ASUS Turbo Key

Installs ASUS Turbo Key. ASUS Turbo Key allows you to turn the PC power button into an overclocking button. After the easy setup, Turbo Key can boost performances without interrupting ongoing work or games - with just one touch!

Microsoft DirectX 9.0c

Installs the Microsoft® DirectX 9.0c driver. The Microsoft DirectX® 9.0c is a multimedia technology that enhances computer graphics and sound. DirectX® improves the multimedia features of you computer so you can enjoy watching TV and movies, capturing videos, or playing games in your computer. Visit the Microsoft website (www.microsoft.com) for updates.

2.3.3   Manual menu

The Manual menu contains a list of supplementary user manuals. Click an item to open the folder of the user manual.

> Most user manual files are in Portable Document Format (PDF). Install the Adobe® Reader from the Utilities menu before opening a user manual file.

ASUS Motherboard Installation Guide

Allows you to open the ASUS Motherboard Installation Guide.

ASUS Motherboard Utility Guide

Allows you to open the ASUS Motherboard Utility Guide.

VIA HD Audio User's Manual

Allows you to open the VIA HD Audio User's Manual.

NIS 2009 Subscription Renewal Guide

Allows you to open the NIS 2009 Subscription Renewal Guide.

2.3.4   ASUS Contact information

Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.

2.3.5   Other information

The icons on the top right corner of the screen give additional information on the motherboard and the contents of the support DVD. Click an icon to display the specified information.

Motherboard Info

Displays the general specifications of the motherboard.
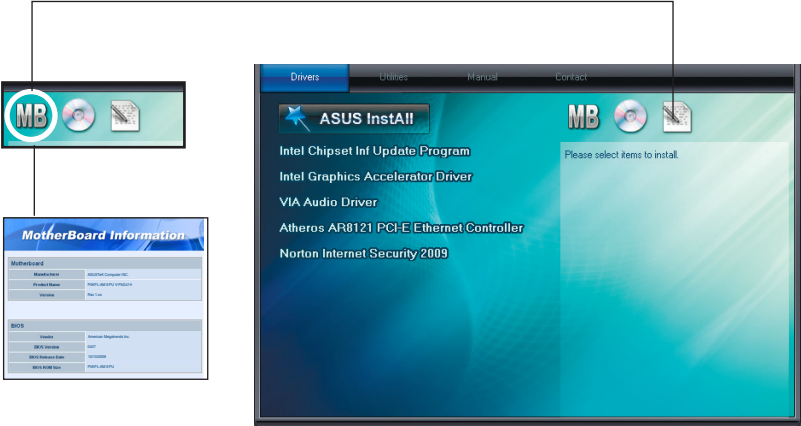
Browse this DVD

Displays the support DVD contents in graphical format.
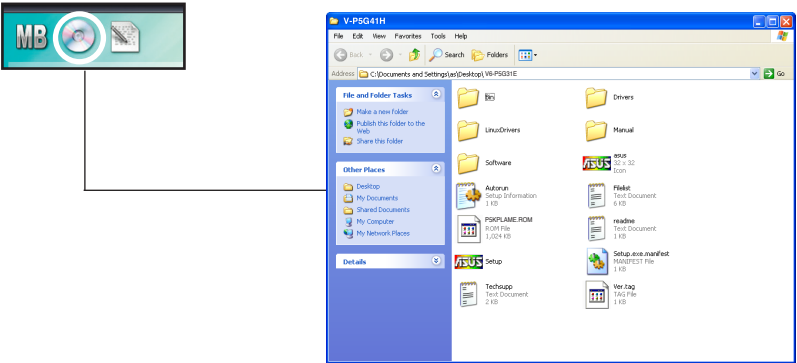
Technical support Form

Displays the ASUS Technical Support Request Form that you have to fill out when requesting technical support.

Filelist

Displays the contents of the support DVD and a brief description of each in text format.

Chapter 3

This chapter gives information about he motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.
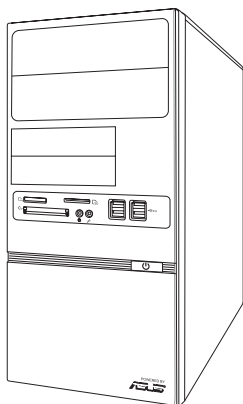
Motherboard info

3.1 Introduction

The Vintage V6-P5G31E barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

3.2 Motherboard layout
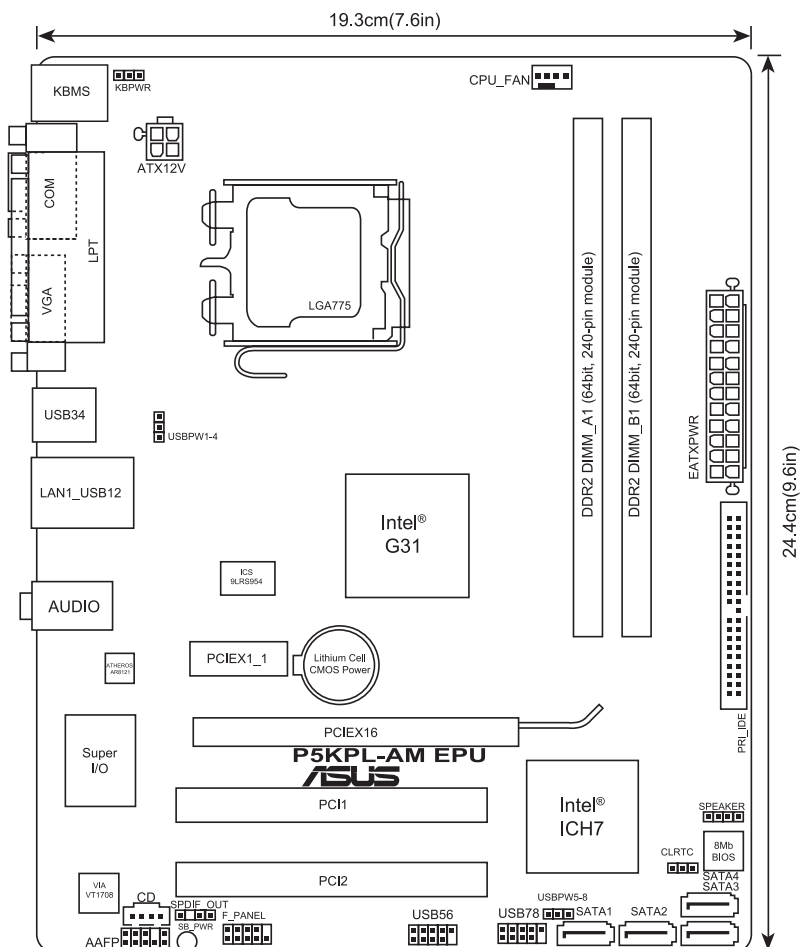
3.3 Jumpers

1. **Clear RTC RAM (3-pin CLRTC)**

   This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.
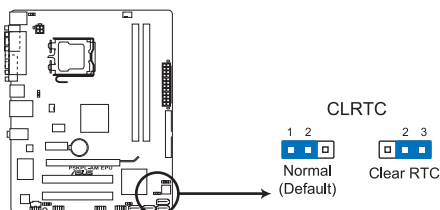
   P5KPL-AM EPU Clear RTC RAM

   To erase the RTC RAM:

   1. Turn OFF the computer and unplug the power cord.

   2. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5-10 seconds, then move the cap back to pins 1-2.

   3. Plug the power cord and turn ON the computer.

   4. Hold down the **<Del>** key during the boot process and enter BIOS setup to re-enter data.

   > Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!

   > • If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
   >
   > • You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R.) feature. Shut down and reboot the system, then the BIOS automatically resets parameter settings to default values.

2. **USB device wake-up (3-pin USBPW1-4, USBPW5-8)**

   Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set these jumpers to +5VSB to wake up the compurer from S3 and S4 sleep modes (no power to CPU, DRAM in slow refresh, power supply in reduced power mode).
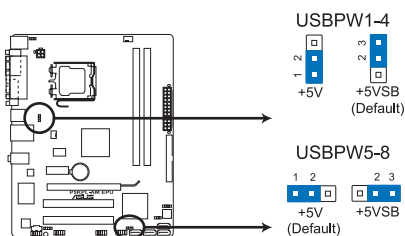
P5KPL-AM EPU USB Device Wake Up

3. **Keyboard power (3-pin KBPWR)**

   This jumper allows you to enable or disable the keyboard wake-up feature. When you set this jumper to pins 2-3 (+5VSB), you can wake up the computer by pressing a key on the keyboard (the default is the Space Bar). This feature requires an ATX power supply that can supply at least 1A on the +5VSB lead, and a corresponding setting in the BIOS.
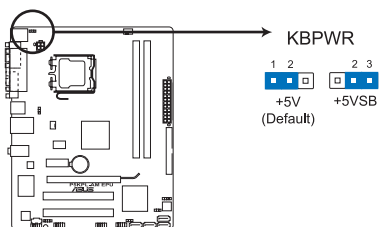
P5KPL-AM EPU Keyboard Power Setting

3.4 Connectors

1. **Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4)**

   These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

   P5KPL-AM EPU SATA connectors
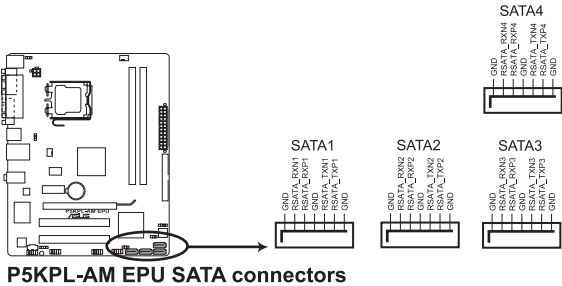
   Install the Windows® XP Service Pack 2 or later version before using Serial ATA.

2. **USB connectors (10-1 pin USB56, USB78)**

   These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

   P5KPL-AM EPU USB2.0 connectors
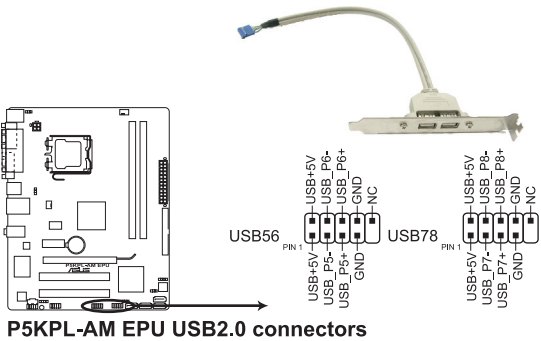
   Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

   The USB module is purchased separately.

3.   **IDE connector (40-1 pin PRI_IDE)**

The onboard IDE connector is for the Ultra DMA 100/66 signal cable. There are three connectors on each Ultra DMA 100/66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device.

	Drive jumper setting	Mode of device(s)	Cable connector
Single device	Cable-Select or Master	-	Black
Two devices	Cable-Select	Master	Black
		Slave	Gray
	Master	Master	Black or gray
	Slave	Slave	

- Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable.

- Use the 80-conductor IDE cable for Ultra DMA 100/66 IDE devices.

If any device jumper is set as "Cable-Select," ensure that all other device jumpers have the same setting.

PRI_IDE

PIN 1

NOTE: Orient the red markings on the IDE ribbon cable to PIN 1.
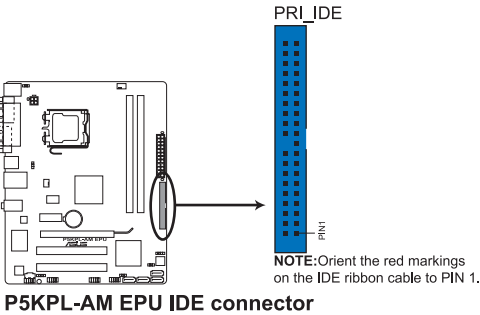
P5KPL-AM EPU IDE connector

4. **CPU and chassis fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN)**

Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.

> **DO NOT** forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! **DO NOT** place jumper caps on the fan connectors!

CPU_FAN

GND
CPU FAN PWR
CPU FAN IN
CPU FAN PWM

CHA_FAN

Rotation
+12V
GND

P5KPL-AM EPU Fan connectors
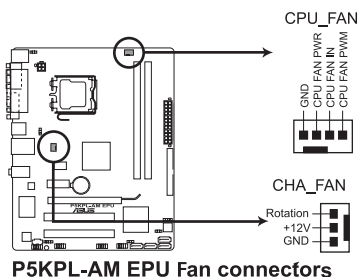
> Only the 4-pin CPU fan connector supports the ASUS Q-Fan feature.

5. **Optical drive audio connector (4-pin CD)**

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.

CD

Right Audio Channel
GND
GND
Left Audio Channel

P5KPL-AM EPU Internal audio connector
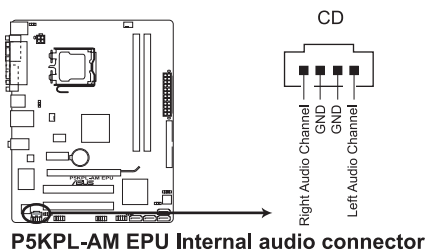
6. Front panel audio connector (10-1 pin AAFP)

This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 audio standard.
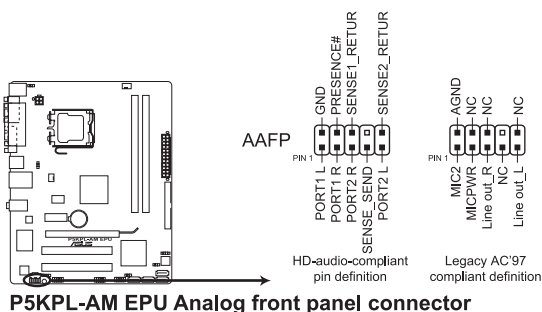
P5KPL-AM EPU Analog front panel connector

- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.

- By default, this connector is set to HD Audio. If you want to connect a High Definition front panel audio module to this connector, set the **Front Panel Type** item in the BIOS to [HD Audio]. See section "4.4.3 Chipset" for details.

7. Digital Audio connector (4-1 pin SPDIF_OUT)

This connector is for the S/PDIF audio module to allow digital sound output. Connect one end of the S/PDIF audio cable to this connector and the other end to the S/PDIF module.
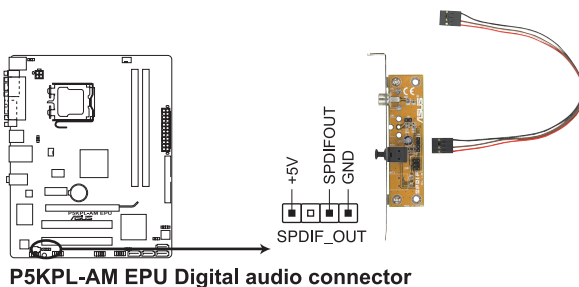
P5KPL-AM EPU Digital audio connector

The S/PDIF out module is purchased separately.

8. **ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)**

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

ATX12V   EATXPWR
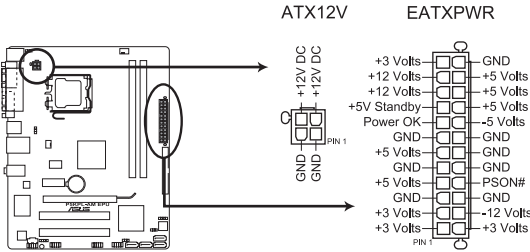
P5KPL-AM EPU ATX power connectors

- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 400 W.

- **DO NOT** forget to connect the 4-pin ATX12V power plug; otherwise, the system will not boot.

- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.

- The ATX 12 V Specification 2.0-compliant (400W) PSU has been tested to support the motherboard power requirements.

9. **Speaker connector (4-pin SPEAKER)**

This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings.
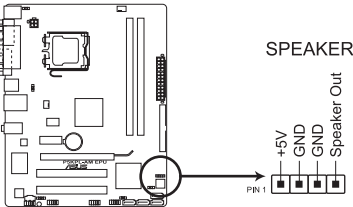
SPEAKER

P5KPL-AM EPU Speaker Out Connector

10. System panel connector (10-1 pin PANEL)

This connector supports several chassis-mounted functions.

P5KPL-AM EPU System panel connector
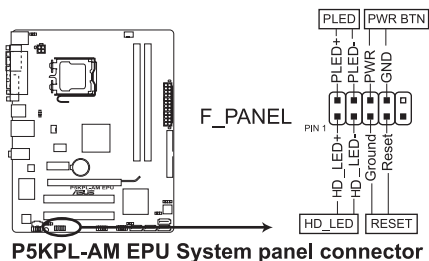
- **System power LED (2-pin PLED)**

  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin HDLED)**

  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.

- **Power/Soft-off button (2-pin PWRBTN)**

  This 2-pin connector is for the system power button. Pressing the power button turns the system ON or puts the system in SLEEP or SOFT-OFF mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.

- **Reset button (2-pin RESET)**

  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

Chapter 4

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.
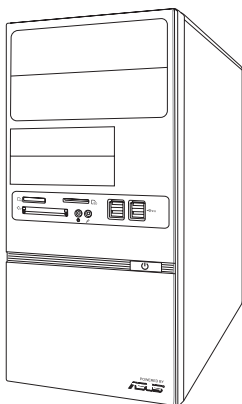
BIOS setup

4.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **ASUS Update**: Updates the BIOS in Windows® environment.
2. **ASUS EZ Flash 2:** Updates the BIOS using a USB flash disk.
3. **ASUS CrashFree BIOS 3:** Updates the BIOS using a bootable USB flash disk or the motherboard support DVD when the BIOS file fails or gets corrupted.

Refer to the corresponding sections for details on these utilities.

> Save a copy of the original motherboard BIOS file to a USB flash disk in case you need to restore the BIOS in the future.

4.1.1 ASUS Update utility

The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment. The ASUS Update utility allows you to:

- Save the current BIOS file
- Download the latest BIOS file from the Internet
- Update the BIOS from an updated BIOS file
- Update the BIOS directly from the Internet, and
- View the BIOS version information.

This utility is available in the support DVD that comes with the motherboard package.

> ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).

Installing ASUS Update

To install ASUS Update:

1. Place the support DVD in the optical drive. The Drivers menu appears.
2. Click the **Utilities** tab, then click **Install ASUS Update**.
3. The ASUS Update utility is copied to your system.

> Quit all Windows® applications before you update the BIOS using this utility.

Updating the BIOS through the Internet

To update the BIOS through the Internet:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.
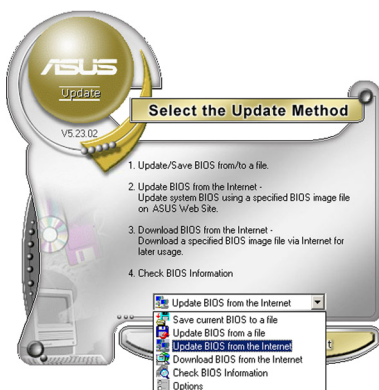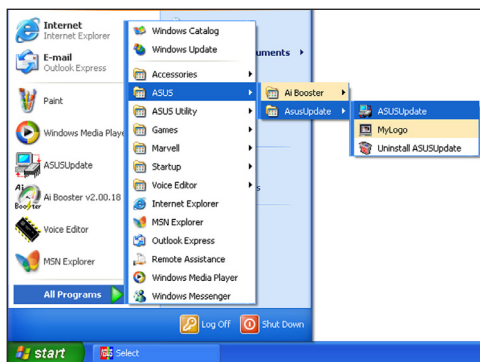
2. Select **Update BIOS** from the Internet option from the drop-down menu, then click **Next**.

3. Select the ASUS FTP site nearest you to avoid network traffic, or click **Auto Select**. Click **Next**.

4. From the FTP site, select the BIOS version that you wish to download. Click **Next**.

5. Follow the screen instructions to complete the update process.

The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.
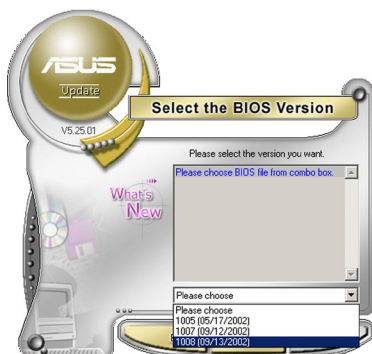
Updating the BIOS through a BIOS file

To update the BIOS through a BIOS file:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.

2. Select Update BIOS from a file option from the drop-down menu, then click **Next**.
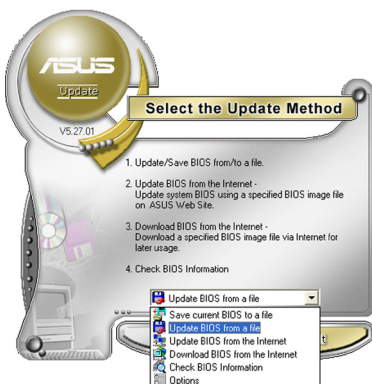
3. Locate the BIOS file from the Open window, then click **Open**.

4. Follow the screen instructions to complete the update process.
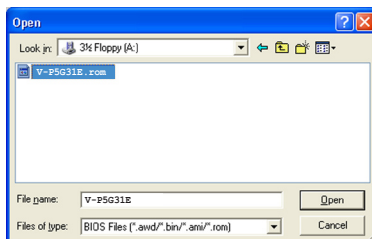
4.1.2   ASUS EZ Flash 2 utility

The ASUS EZ Flash 2 feature allows you to update the BIOS without using an OS-based utility.

To update the BIOS using EZ Flash 2:

1.   Insert the USB flash disk that contains the latest BIOS file to the USB port, then launch EZ Flash 2 in any of these two ways:

   •   Press <Alt> + <F2> during POST.

   •   Enter the BIOS setup program. Go to the Tools menu to select EZ Flash 2 and press <Enter> to enable it.
        Press <Tab> to switch between drives until the correct BIOS file is found.

```
         ASUSTek EZ Flash 2 BIOS ROM Utility V3.37
 FLASH TYPE: WOINBOND W25X/Q80
  ┌──── Current ROM ────┐        ┌──── Update ROM ────┐
  │ BOARD: P5KPL-AM EPU │        │ BOARD: Unknown     │
  │ VER: 0407 (H:01 B:10)│       │ VER: Unknown       │
  │ DATE: 10/10/2009    │        │ DATE: Unknown      │
  └─────────────────────┘        └────────────────────┘
 PATH: A:\

  ┌─────────┐  ┌────────────────────────────────────┐
  │ A:      │  │                                    │
  │         │  │                                    │
  │         │  │                                    │
  │         │  │                                    │
  │         │  │                                    │
  └─────────┘  └────────────────────────────────────┘
  ┌─ Note ─────────────────────────────────────────┐
  │  [Enter] Select or Load   [Tab] Switch   [V] Drive Info │
  │  [Up/Down/Home/End] Move  [B] Backup     [Esc] Exit     │
  └────────────────────────────────────────────────┘
```
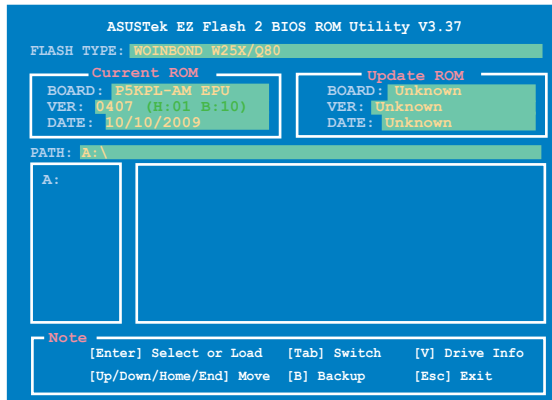
2.   When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.

   •   Only a USB flash disk with FAT 32/16 format and single partition can support the ASUS EZ Flash 2 utility.

   •   Do not shut down or reset the system while updating the BIOS to prevent system boot failure!

4.1.3   ASUS CrashFree BIOS

The ASUS CrashFree BIOS is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a removable device that contains the updated BIOS file.

> •   The BIOS file in the support DVD may not be the latest version. Download the latest BIOS file from the ASUS website at www.asus.com.
>
> •   The removable devices that ASUS CrashFree BIOS support vary with motherboard models. For motherboards without the floppy connector, prepare a USB flash disk before using this utility.

Recovering the BIOS

To recover the BIOS:

1.   Turn on the system.
2.   Insert the support DVD to the optical drive or the removable device that contains the BIOS file to the USB port or to the floppy disk drive, if supported.
3.   The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.
4.   Turn off the system after the utility completes the updating process and turn on again.

> DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

> Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the **Load Setup Defaults** item under the Exit menu. Refer to section **4.8 Exit menu** for details.

4.2 BIOS setup program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

- Press <Delete> during the Power-On Self Test (POST). If you do not press <Delete>, POST continues with its routines.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+<Del> simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.

Using the **power button**, **reset button**, or the **<Ctrl>+<Alt>+<Del>** keys to force reset from a running operating system can cause damage to your data or system. We recommend to always shut down the system properly from the operating system.

- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Default Settings** item under the Exit Menu. See section "4.8 Exit Menu."

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

- Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard.

4.2.1 BIOS menu screen

Menu items   Menu bar   Configuration fields   General help

```
                        BIOS SETUP UTILITY
Main     Advanced     Power     Boot     Tools     Exit

 System Time                  [12:56:38]              Use [ENTER], [TAB]
 System Date                  [Mon 11/16/2009]        or [SHIFT-TAB] to
                                                      select a field.
 ▶ Primary IDE Master         :[Not Detected]
 ▶ Primary IDE Slave          :[Not Detected]         Use [+] or [-] to
 ▶ SATA 1                     :[Not Detected]         configure system time.
 ▶ SATA 2                     :[Not Detected]
 ▶ SATA 3                     :[Not Detected]
 ▶ SATA 4                     :[Not Detected]

 ▶ Storage Configuration                              ←→     Select Screen
 ▶ System Information                                 ↑↓     Select Item
                                                      +-     Change Option
                                                      F1     General Help
                                                      F10    Save and Exit
                                                      ESC    Exit


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```

Sub-menu items   Navigation keys

4.2.2 Menu bar

The menu bar on top of the screen has the following main items:

Main   For changing the basic system configuration

Advanced   For changing the advanced system settings

Power   For changing the advanced power management (APM) configuration

Boot   For changing the system boot configuration

Tools   For configuring options for special functions

Exit   For selecting the exit options and loading default settings

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

4.2.3 Navigation keys

At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

> Some of the navigation keys differ from one screen to another.

4.2.4   Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Advanced, Power, Boot, Tool, and Exit) on the menu bar have their respective menu items.
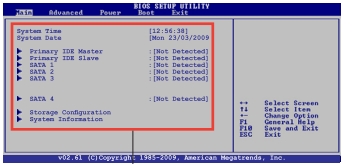
Main menu items

4.2.5   Sub-menu items

A solid triangle before each item on any menu screen means that the iteam has a sub-menu. To display the sub-menu, select the item and press <Enter>.

4.2.6   Configuration fields

These fields show the values for the menu items. If an item is user- configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to "2.2.7 Pop-up window."

4.2.7   Pop-up window

Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item.
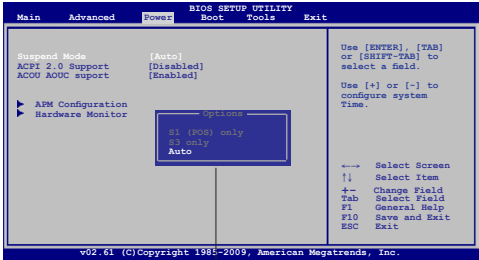
4.2.8   Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the

Pop-up window

Up/Down arrow keys or <Page Up> /<Page Down> keys to display the other items on the screen.

4.2.9   General help

At the top right corner of the menu screen is a brief description of the selected item.

4.3 Main menu

When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.

Refer to section "4.2.1 BIOS menu screen" for information on the menu screen items and how to navigate through them.

```
                        BIOS SETUP UTILITY
 Main    Advanced    Power    Boot    Exit
                                                    Use [ENTER], [TAB]
                                                    or [SHIFT-TAB] to
 System Time              [12:56:38]                select a field.
 System Date              [Mon 11/16/2009]
                                                    Use [+] or [-] to
 ►  Primary IDE Master       :[Not Detected]        configure system time.
 ►  Primary IDE Slave        :[Not Detected]
 ►  SATA 1                   :[Not Detected]
 ►  SATA 2                   :[Not Detected]
 ►  SATA 3                   :[Not Detected]
 ►  SATA 4                   :[Not Detected]
                                                    ←→    Select Screen
 ►  Storage Configuration                           ↑↓    Select Item
 ►  System Information                              +-    Change Option
                                                    F1    General Help
                                                    F10   Save and Exit
                                                    ESC   Exit

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```

4.3.1 System Time [xx:xx:xx]

Allows you to set the system time.

4.3.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

4.3.3 Primary IDE Master/Slave, SATA1~4

While entering Setup, the BIOS automatically detects the presence of IDE/SATA devices. There is a separate sub-menu for each IDE/SATA device. Select a device item then press <Enter> to display the IDE/SATA device information.

```
                              BIOS SETUP UTILITY
    Main    Advanced    Power    Boot    Exit

        Primary IDE Master

        Device        : Not Detected


        Type                         [Auto]
        LBA/Large Mode               [Auto]
        Block(Multi-Sector Transfer) M   [Auto]
        PIO Mode                     [Auto]
        DMA Mode                     [Auto]
        SMART Monitoring             [Auto]
        32Bit Data Transfer          [Enabled]       ↔     Select Screen
                                                     ↑↓    Select Item
                                                     +-    Change Option
                                                     F1    General Help
                                                     F10   Save and Exit
                                                     ESC   Exit


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```
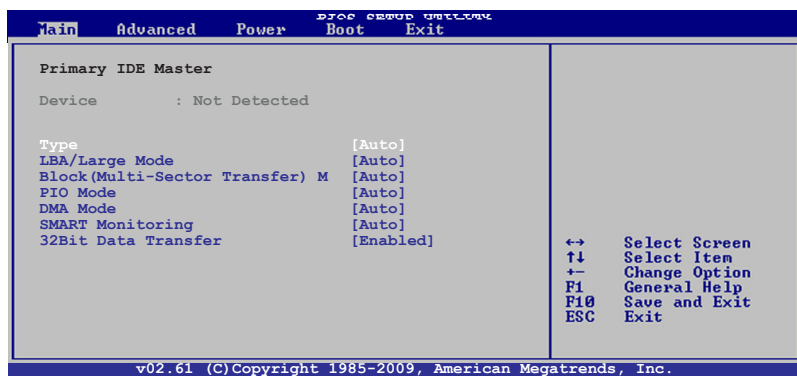
The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show N/A if no IDE/SATA device is installed in the system.

Type [Auto]

Selects the type of IDE drive. Setting to Auto allows automatic selection of the appropriate IDE device type. Select CDROM if you are specifically configuring a CD-ROM drive. Select ARMD (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive. Configuration options: [Not Installed] [Auto] [CDROM] [ARMD]

This item appears only when you select the **Primary IDE Master/Slave** devices.

LBA/Large Mode [Auto]

Enables or disables the LBA mode. Setting to Auto enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Disabled] [Auto]

Block (Multi-sector Transfer) M [Auto]

Enables or disables data multi-sectors transfers. When set to Auto, the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to [Disabled], the data transfer from and to the device occurs one sector at a time.
Configuration options: [Disabled] [Auto]

PIO Mode [Auto]

Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4]

DMA Mode [Auto]

Selects the DMA mode. Configuration options: [Auto]

SMART Monitoring [Auto]

Sets the Smart Monitoring, Analysis, and Reporting Technology.
Configuration options: [Auto] [Disabled] [Enabled]

32Bit Data Transfer [Enabled]

Enables or disables 32-bit data transfer.
Configuration options: [Disabled] [Enabled]

4.3.4   Storage Configuration

The items in this menu allow you to set or change the configurations for the IDE
devices installed in the system. Select an item then press <Enter> if you wish to
configure the item.
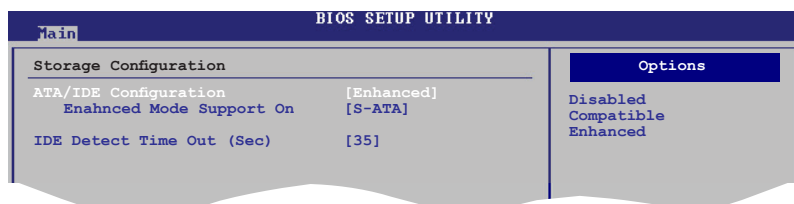
ATA/IDE Configuration [Enhanced]

Allows you to configure ATA/IDE. Configuration options: [Disabled] [Compatible]
[Enhanced]

   Enhanced Mode Support On [S-ATA]
   Allows you to set Serial ATA, Parallel ATA or both as native mode.
   Configuration options: [S-ATA+P-ATA] [S-ATA] [P-ATA]

IDE Detect Time Out [35]

Selects the time out value for detecting ATA/ATAPI devices.
Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

4.3.5   System Information

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.

```
                        BIOS SETUP UTILITY
  Main

  AMIBIOS

  Version    : 0407
  Build Date : 10/10/09

  Processor

  Type     : Intel(R) Core(TM)2 CPU 6300 @ 1.86GHz
  Speed    : 1866MHz


  System Memory                          ←→     Select Screen
                                         ↑↓     Select Item
  Installed Size: 1024MB                 +-     Change Option
  Usable Size   : 1015MB                 F1     General Help
                                         F10    Save and Exit
                                         ESC    Exit
```
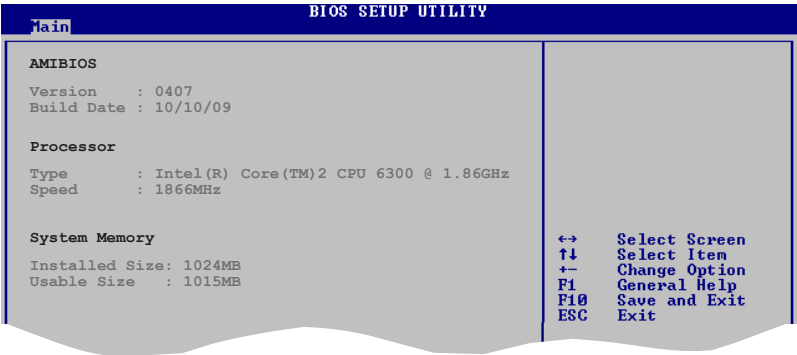
AMI BIOS

Displays the auto-detected BIOS information.

Processor

Displays the auto-detected CPU specification.

System Memory

Displays the auto-detected system memory.

4.4 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

```
                        BIOS SETUP UTILITY
    Main    Advanced    Power    Boot    Tools    Exit

▶  JumperFree Configuration                     Adjust system
                                                frequency/voltage

▶  CPU Configuration
▶  Chipset
▶  Onboard Devices Configuration
▶  USB Configuration
▶  PCIPnP

                                           ←→    Select Screen
                                           ↑↓    Select Item
                                           Enter Go to Sub Screen
                                           F1    General Help
                                           F10   Save and Exit
                                           ESC   Exit

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```

4.4.1 JumperFree Configuration

```
                        BIOS SETUP UTILITY
        Advanced

Configure System Frequency/Voltage              Select the target CPU
                                                frequency, and the
AI Overclocking              [Auto]             relevant parameters
DRAM Frequency               [Auto]             will be auto-
                                                adjusted.
Memory Voltage               [Auto]             Frequencies higher
NB Voltage                   [Auto]             than CPU manufacturer
VTT_CPU Over Voltage         [Auto]             recommends are not
SB Over Voltage              [Auto]             guaranteed to be
Auto PSI                     [Enabled]          stable. If the system
```

AI Overclocking [Auto]

Allows selection of CPU overclocking options to achieve desired CPU internal frequency. Select either one of the preset overclocking.
Configuration options: [MANUAL] [Auto] [Overclock Profile] [Test Mode]

The following two items appear only when you set the AI Overclocking item to [MANUAL].

CPU Frequency [XXX]

Displays the frequency sent by the clock generator to the system bus and PCI bus. The value of this item is auto-detected by the BIOS. Use the <+> and <-> keys to adjust the CPU frequency. You can also type the desired CPU frequency using the numeric keypad. The values range from 133 to 500. Refer to the table below for the correct Front Side Bus and CPU External Frequency settings.

FSB / CPU External Frequency Synchronization

Front Side Bus	CPU External Frequency
FSB 1600	400 MHz
FSB 1333	333 MHz
FSB 1066	266 MHz
FSB 800	200 MHz

The following item appears only when you set the AI Overclocking item to [Overclock Profile].

Overclock Options [Overclock 5%]
Allows you to select the overclock options. Configuration options: [Overclock 5%] [Overclock 10%] [Overclock 15%] [Overclock 20%]

DRAM Frequency [Auto]

Allows you to set the DDR2 operating frequency. Configuration options: [Auto] [667 MHz] [800 MHz] [1067 MHz]

- The configuration options vary with different CPUs.

- The DRAM Frequency options vary with different FSB value. Refer to the following table for the DRAM Frequency options when the FSB value is 1600, 1333, 1066, and 800.

FSB	DRAM Frequency							
	Auto	667MHz	800MHz	960MHz	1000MHz	1067MHz	1100MHz	1200MHz
1600	•		•	•	•			•
1333	•	•	•		•		•	
1066	•	•	•			•		
800	•	•	•					

Selecting a very high DRAM frequency may cause the system to become unstable! If this happens, revert to the default setting.

Memory Voltage [Auto]

Allows you to set the Memory Voltage. Key in the value directly. **Configuration** options: [Auto] [Min = 1.85000V] [Max = 2.24375V]

NB Voltage [Auto]

Allows you to select the North Bridge voltage or set it to [Auto] mode.
Configuration options: [Auto] [1.30V] [1.35V] [1.40V] [1.45V]

VTT_CPU Over Voltage [Auto]

Manually set FSB Termination Voltage or set to Auto for safe mode.
Configuration options: [Auto] [1.2V] [1.3V]

SB Over Voltage [1.5V]

Manually set the Southbridge Chipset Voltage or set to Auto for safe mode.
Configuration options: [1.5V] [1.6V]

> Setting a very high voltage may damage the component permanently, and setting a very low voltage may cause the system to become unstable.

Auto PSI [Enabled]

Allows you to eanable or disable the Auto PSI mode.
Configuration options: [Disabled] [Enabled]

4.4.2   CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.

```
                          BIOS SETUP UTILITY
        Advanced

  Configure advanced CPU settings                      Sets the ratio between
                                                       CPU Core Clock and the
  Manufacturer: Intel                                  FSB Frequency.
  Brand String: Intel(R)Core(TM)2 CPU 6300 @ 1.86GHz   NOTE: If an invalid
  Frequency   : 1.86GHz                                ratio is set in CMOS
  FSB Speed   : 1066MHz                                then actual and
  Cache L1    : 64 KB                                  setpoint values may
  Cache L2    : 2048 KB                                differ.
  Ratio Status: Unlocked (Min:06, Max:07)
  Ratio Actual Value: 7
  CPUID       : 6F2

  Ratio CMOS Setting            [Auto]               ↔       Select Screen
  C1E Support                   [Enabled]            ↑↓      Select Item
  Max CPUID Value Limit         [Disabled]           +—      Change Option
  Vanderpool Technology         [Enabled]            F1      General Help
  CPU TM Function:              [Enabled]            F10     Save and Exit
  Execute-Disable Bit Capability [Enabled]           ESC     Exit
  Intel(R)SpeedStep(TM) Tech    [Enabled]
```

CPU Ratio Setting [Auto]

Sets the ration between CPU core clock and the FSB frequency.

> • If an invalid ratio is set in CMOS then actual and set values may differ.
> • Key in ratio numbers directly.

C1E Support [Enabled]

Allows you to enable or disable Inter CPU Enhanced Halt (C1E) function, a CPU power-saving function in system halt state. When enable, the CPU core frequency and voltage will be reduced during the system halt state to decrease power consumption. Configuration options: [Disabled] [Enabled]

Max CPUID Value Limit [Disabled]

Allows you to determine whether to limit CPUID maximum value. Set this item to [Disabled] for Windows XP operating system; set this item to [Enabled] for legacy operating system such as Windows NT4.0. (Default: Disabled)
Configuration options: [Disabled] [Enabled]

Vanderpool Technology [Enabled]

Enables or disables Intel® Virtualization Technology. Virtualization enhanced by Intel® Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions. With Virtualization, one computer system can function as multiple virtual systems. Configuration options: [Enabled] [Disabled]

CPU TM Function [Enabled]

Enables or disables Intel® CPU Thermal Monitor (TM) function, a CPU overheating protection function. When enabled, the CPU core frequency and voltage are reduced when the CPU overheats. Configuration options: [Disabled] [Enabled]

Execute-Disable Bit Capability [Enabled]

Enables or disables Intel® Execute Disable Bit function. This function enhance protection of your computer, reducing exposure to viruses and malicious buffer overflow attacks when working with its supporting software and system. Configuration options: [Disabled] [Enabled]

The following item appears only when you installed an Intel® Pentium® 4 or later CPU that supports the Enhanced Intel SpeedStep® Technology (EIST).

Intel(R) SpeedStep(TM) Technology [Enabled]

Allows you to use the Enhanced Intel® SpeedStep™ Technology. When set to [Enabled], you can adjust the system power settings in the operating system to use the EIST feature. Set this item to [Disabled] if you do not want to use the EIST. Configuration options: [Enabled] [Disabled]

4.4.3   Chipset

The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.

```
                          BIOS SETUP UTILITY
          Advanced

    Advanced Chipset Settings                     Configure North Bridge
                                                  features.
    WARNING: Setting wrong values in below sections
             may cause system to  malfunction.

    ▶   North Bridge Configuration
    ▶   South Bridge Configuration
```

North Bridge Configuration

```
                          BIOS SETUP UTILITY
          Advanced

    North Bridge chipset Configuration            ENABLE: Allow
                                                  remapping of
    Memory Remap Feature           [Enabled]      overlapped PCI memory
    Configure DRAM Timing by SPD   [Enabled]      above the total
                                                  physical memory.
    Initiate Graphic Adapter       [PEG/PCI]
    IGD Graphics Mode Select       [Enabled, 32MB] DISABLE: Do not allow
                                                  remapping of memory
    ▶   Video Function Configuration

                                                  ↔     Select Screen
                                                  ↑↓    Select Item
```

Memory Remap Feature [Enabled]

Allows you to enable or disable the remapping of overlapped PCI memory above the total physical memory. Configuration options: [Enabled] [Disabled]

Configure DRAM Timing by SPD [Enabled]

Allows you to enable or disable configuring DRAM Timing by SPD.
Configuration options: [Enabled] [Disabled]

Initiate Graphic Adapter [PEG/PCI]

Allows you to select the graphics controller as the primary boot device.
Configuration options: [IGD] [PCI/IGD] [PCI/PEG] [PEG/IGD] [PEG/PCI]

Internal Graphics Mode Select [Enabled, 8MB]

Allows you to select the amount of system memory used by the Internal graphics
device. Configuration options: [Disabled] [Enabled, 1MB] [Enabled, 8MB] [Enabled,
128MB]

Video Function Configuration

DVMT Mode Select [DVMT Mode]
Allows you to select the graphics memory type.
Configuration options: [DVMT Mode] [Fixed Mode]

DVMT/FIXED Memory [256MB]
Configuration options: [128MB] [256MB] [Maximum DVMT]

South Bridge Configuration

```
                          BIOS SETUP UTILITY
          Advanced

    South Bridge chipset Configuration                        Options

    Audio Controller              [Azalia]          Azalia
     Front Panel Support Type     [HD Audio]        All Disabled
```
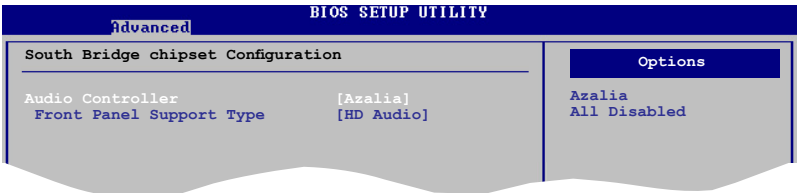
Audio Controller [Azalia]

Allows you to set the audio controller. Configuration options: [Azalia] [All Disabled]

Front Panel Type [HD Audio]
Allows you to select the front panel support type. If High Definition Audio
Front Panel is used, set this item to [HD Audio] mode.
Configuration options: [AC97] [HD Audio]

4.4.4   Onboard Devices Configuration

```
                          BIOS SETUP UTILITY
        Advanced

   Configure Win627DHG-A Super IO Chipset                        Options

   Onboard PCIE GbE LAN              [Enabled]         Enabled
     LAN Option ROM                  [Disabled]        Disabled

   Serial Port1 Address             [3F8/IRQ4]
   Parallel Port Address            [378]
   Parallel Port Mode               [ECP]
     ECP Mode DMA Channel           [DMA3]
     Parallel Port IRQ              [IRQ7]
                                                    ←→    Select Screen
                                                    ↑↓    Select Item
                                                    +—    Change Option
                                                    F1    General Help
```
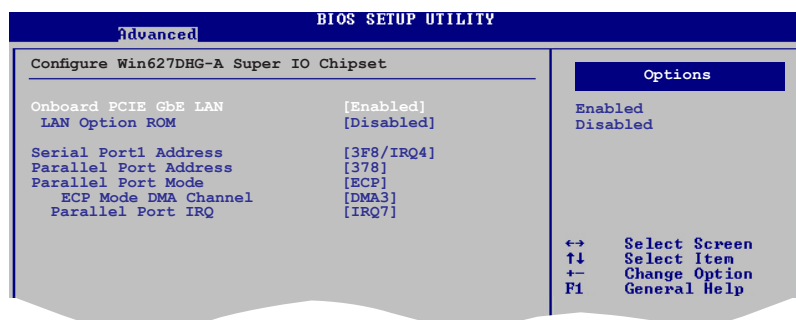
Onboard PCIE GbE LAN [Enabled]

Allows you to enable or disable the onboard LAN controller.
Configuration options: [Enabled] [Disabled]

> *Onboard LAN Option ROM [Disabled]*
> Allows you to enable or disable the boot ROM in the onboard LAN controller.
> This item appears only when the Onboard LAN item is set to Enabled.
> Configuration options: [Disabled] [Enabled]

Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address.
Configuration options: [Disabled] [3F8/IRQ4] [2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3]

Parallel Port Address [378]

Allows you to select the Parallel Port base addresses.
Configuration options: [Disabled] [378] [278] [3BC]

Parallel Port Mode [ECP]

Allows you to select the Parallel Port mode.
Configuration options: [Normal] [Bi-Directional] [EPP] [ECP]

> *ECP Mode DMA Channel [DMA3]*
> Appears only when the **Parallel Port Mode** item is set to [ECP]. This item
> allows you to set the Parallel Port ECP DMA. Configuration options: [DMA0]
> [DMA1] [DMA3]

> *Parallel Port IRQ [IRQ7]*
> Allows you to select parallel port IRQ. Configuration options: [IRQ5] [IRQ7]

4.4.5 USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press <Enter> to display the configuration options.

```
                        BIOS SETUP UTILITY
      Advanced

  USB Configuration                                      Options

  Module Version - 2.24.3-13.4                    Disabled
                                                  Enabled
  USB Devices Enabled:
          None

  USB Functions            [Enabled]
  USB 2.0 Controller       [Enabled]
  Legacy USB Support       [Auto]
  USB 2.0 Controller Mode  [HiSpeed]            ↔    Select Screen
                                                ↑↓   Select Item
                                                +-   Change Option
```
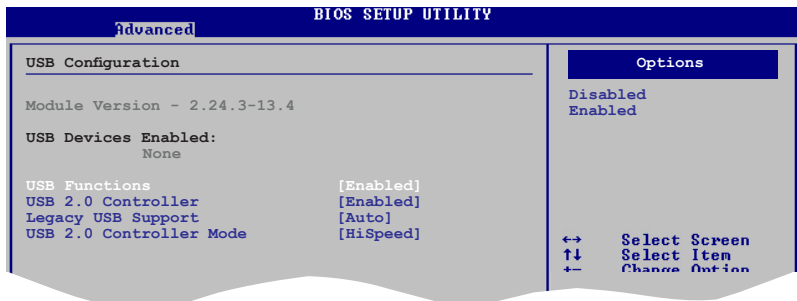
> 📝 The Module Version and USB Devices Enabled items show the auto-detected values. If no USB device is detected, the item shows None.

USB Functions [Enabled]

Allows you to enable or disable the USB functions.
Configuration options: [Disabled] [Enabled]

USB 2.0 Controller [Enabled]

Allows you to enable or disable USB 2.0 controller.
Configuration options: [Enabled] [Disabled]

Legacy USB Support [Auto]

Allows you to enable or disable support for USB devices on legacy operating systems (OS). Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.
Configuration options: [Disabled] [Enabled] [Auto]

USB 2.0 Controller Mode [HiSpeed]

Allows you to configure the USB 2.0 controller in HiSpeed (480 Mbps) or Full Speed (12 Mbps). Configuration options: [FullSpeed] [HiSpeed]

The following items may only appear when a USB storage device is plugged.

USB Mass Storage Device Configuration

USB Mass Storage Reset Delay [20 Sec]

Allows you to set the maximum time that the BIOS waits for the USB storage device to initialize. Configuration options: [10 Sec] [20 Sec] [30 Sec] [40 Sec]

Emulation Type [Auto]

Allows you to set the emulation type. Configuration options: [Auto] [Floppy] [Forced FDD] [Hard Disk] [CDROM]

4.4.6   PCI PnP

The PCI PnP menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices, and setting the memory size block for legacy ISA devices.

Take caution when changing the settings of the PCI PnP menu items. Incorrect field values can cause the system to malfunction.

```
                          BIOS SETUP UTILITY
         Advanced

 Advanced PCI/PnP Settings                        NO: lets the BIOS
                                                  configure  all  the
 WARNING: Setting wrong values in below sections  devices in the system.
          may cause system to malfunction.        YES: lets the operating
                                                  system configure Plug
 Plug And Play O/S              [No]              and Play (PnP) devices
                                                  not required for boot
                                                  if
                                                  your system has a Plug
                                                  and Play operating
                                                  system.
                                                  ←→     Select Screen
                                                  ↑↓     Select Item
                                                  +-     Change Option
                                                  F1     General Help
                                                  F10    Save and Exit
                                                  ESC    Exit

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```

Plug And Play O/S [No]

When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot.
Configuration options: [No] [Yes]

4.5 Power menu

The Power menu items allow you to change the settings for the Advanced Power Management (APM). Select an item then press <Enter> to display the configuration options.

```
                            BIOS SETUP UTILITY
   Main      Advanced     Power     Boot     Tools     Exit

                                                   Select the ACPI state
                                                   used for System
   Suspend Mode                 [Auto]             Suspend.
   ACPI 2.0 Support             [Disabled]
   ACPI APIC Support            [Enabled]

  ▶  APM Configuration
  ▶  Hardware Monitor

```
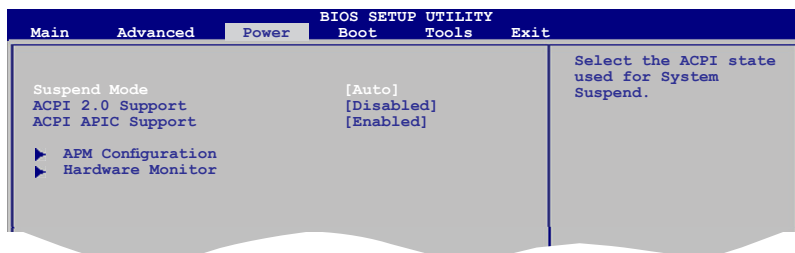
4.5.1 Suspend Mode [Auto]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend. Configuration options: [S1 (POS) Only] [S3 Only] [Auto]

4.5.2 ACPI 2.0 Support [Disabled]

Allows you to add more tables for Advanced Configuration and Power Interface (ACPI) 2.0 specifications. Configuration options: [Disabled] [Enabled]

4.5.3 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Application-Specific Integrated Circuit (ASIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list. Configuration options: [Disabled] [Enabled]

4.5.4   APM Configuration

```
                       BIOS SETUP UTILITY
              Power

  APM Configuration                                    <Enter> to select
                                                       whether or not to
  Restore on AC Power Loss        [Power Off]          restart the system
                                                       after AC power loss.
  Resume On By RTC Alarm          [Disabled]
  Resume On By External Modems    [Disabled]
  Resume On By PCI Device         [Disabled]
  Resume On By PCIE Device        [Disabled]
  Resyne On By PS/2 Keyboard      [Disabled]
  Resume On By PS/2 KB/MS         [Disabled]
```
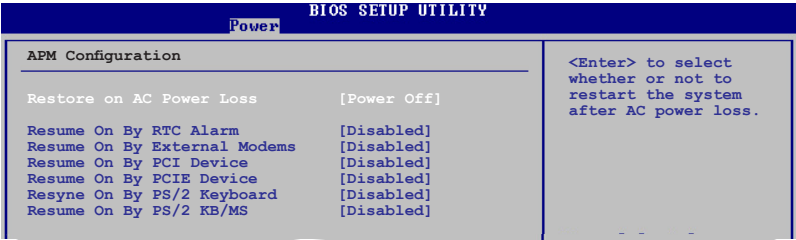
Restore on AC Power Loss [Power Off]

When set to [Power Off], the system goes into off state after an AC power loss.
When set to [Power On], the system goes on after an AC power loss. When set to
[Last State], the system goes into either off or on state, whatever the system state
was before the AC power loss. Configuration options: [Power Off] [Power On]
[Last State]

Resume On By RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is
set to [Enabled], the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute,
and RTC Alarm Second appear with set values. Configuration options: [Disabled]
[Enabled]

Resume On By External Modem [Disabled]

Allows you to enable or disable external modem to generate a wake event.
Configuration options: [Disabled] [Enabled]

Power On By PCI Devices [Disabled]

When set to [Enabled], this parameter allows you to wake the system through a
PCI LAN or modem card. This feature requires an ATX power supply that provides
at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Resume On By PCIE Devices [Disabled]

When set to [Enabled], this parameter allows you to wake the system through a
PCI Express card. This feature requires an ATX power supply that provides at least
1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Power On By PS/2 Keyboard [Disabled]

Allows you to enable or disable the PS/2 keyboard to generate a wake event. This
feature requires an ATX power supply that provides at least 1A on the +5VSB lead.
Configuration options: [Disabled] [Space Bar] [Ctrl-Esc] [Power Key]

Power On By PS/2 Mouse [Disabled]

Allows you to enable or disable the PS/2 mouse to generate a wake event. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

4.5.5   Hardware Monitor

```
                         BIOS SETUP UTILITY
                    Power

    Hardware Monitor                                  CPU Temperature

    CPU Temperature              [26°C/78.5°F]
    MB Temperature               [28°C/82°F]

    CPU Fan Speed                [4041RPM]
    CPU Q-Fan Control            [Disabled]
    Chassis Fan Speed            [N/A]
    Power Fan Speed              [N/A]

    VCORE Voltage                [ 1.344V]
    3.3V Voltage                 [ 3.280V]            ←→    Select Screen
    5V Voltage                   [ 5.145V]            ↑↓    Select Item
    12V Voltage                  [11.932V]            +-    Change Option
                                                      F1    General Help
                                                      F10   Save and Exit
                                                      ESC   Exit

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```

CPU/MB Temperature [xxxºC/xxxºF] or [Ignored]
The onboard hardware monitor automatically detects and displays the CPU / motherboard temperatures. Select **Ignored** if you do not wish to display the detected temperatures.

CPU Fan Speed (RPM) [xxxxRPM] or [N/A] or [Ignored]

The onboard hardware monitor automatically detects and displays the CPU fan speed in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows N/A. Select Ignored if you do not wish to display the detected speed.

CPU Q-Fan Control [Disabled]

Allows you to enable or disable the CPU Q-Fan control.
Configuration options: [Disabled] [Enabled]

Chassis Fan Speed [xxxxRPM] or [N/A] or [Ignored]

The onboard hardware monitor automatically detects and displays the chassis fan speed in rotations per minute (RPM). If the fan is not connected to the chassis, the specific field shows N/A. Select Ignored if you do not wish to display the detected speed.

VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

4.6 Boot menu

The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu.

```
                          BIOS SETUP UTILITY
   Main      Advanced     Power     Boot     Tools     Exit

    Boot settings                                   Specifies the Boot
   ─────────────────────────────────────────────   Device Priority
                                                    sequence.
   ▶  Boot Device Priority
                                                    A virtual floppy disk
   ▶  Boot Settings Configuration                   drive (Floppy Drive B:
   ▶  Security                                      ) may appear when you
                                                    set the CD-ROM drive
                                                    as the first boot
                                                    device.


                                                    ↔→     Select Screen
                                                    ↑↓     Select Item
                                                    +-     Change Option
                                                    F1     General Help
                                                    F10    Save and Exit
                                                    ESC    Exit

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```

4.6.1 Boot Device Priority

```
                          BIOS SETUP UTILITY
   Main      Advanced     Power     Boot     Tools     Exit

    Boot Device Priority                            Specifies the boot
                                                    sequence from the
   1st Boot Device          [Removable Dev.]        available devices.
   2nd Boot Device          [Hard Drive]
   3rd Boot Device          [ATAPI CD-ROM]
```

1st ~ xxth Boot Device [Removable Dev.]

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [Removable Device] [Hard Drive] [ATAPI CD-ROM] [Disabled]

> • To select the boot device during system startup, press <F8> when ASUS logo appears.
>
> • To access Windows OS in Safe Mode, do any of the following:
>   • Press <F5> when ASUS logo appears.
>   • Press <F8> after POST.

4.6.2 Boot Settings Configuration

```
                        BIOS SETUP UTILITY
                         Boot

Boot Settings Configuration                              Allows BIOS to skip
                                                         certain tests while
Quick Boot                        [Enabled]              booting. This will
Full Screen Logo                  [Enabled]              decrease the time
AddOn ROM Display Mode            [Force BIOS]           needed to boot the
Bootup Num-Lock                   [On]                   system.
Wait For 'F1' If Error            [Enabled]
Hit 'DEL' Message Display         [Enabled]
```

Quick Boot [Enabled]

Enabling this item allows the BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items. Configuration options: [Disabled] [Enabled]

Full Screen Logo [Enabled]

This allows you to enable or disable the full screen logo display feature.
Configuration options: [Disabled] [Enabled]

> Set this item to [Enabled] to use the ASUS MyLogo2™ feature.

Add On ROM Display Mode [Force BIOS]

Sets the display mode for option ROM. Configuration options: [Force BIOS] [Keep Current]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock.
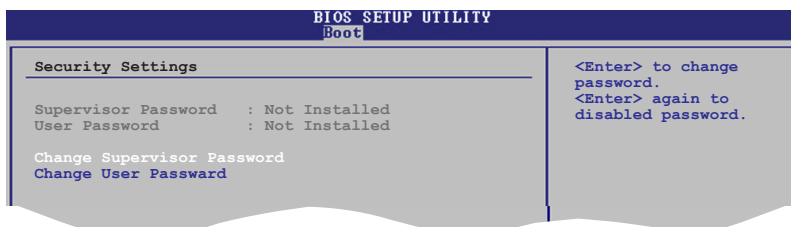Configuration options: [Off] [On]

Wait for 'F1' If Error [Enabled]

When set to [Enabled], the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

Hit 'DEL' Message Display [Enabled]

When set to [Enabled], the system displays the message "Press DEL to run Setup" during POST. Configuration options: [Disabled] [Enabled]

4.6.3   Security

The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options.

```
                          BIOS SETUP UTILITY
                              Boot

   Security Settings                              <Enter> to change
                                                  password.
   Supervisor Password   : Not Installed          <Enter> again to
   User Password         : Not Installed          disabled password.

   Change Supervisor Password
   Change User Password
```

Change Supervisor Password

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a Supervisor Password:

1.   Select the Change Supervisor Password item and press <Enter>.

2.   On the password box, key in a password containing up to six letters or numbers, or both, then press <Enter>.

3.   Confirm the password when prompted.

The message "Password Installed" appears after you successfully set your password.

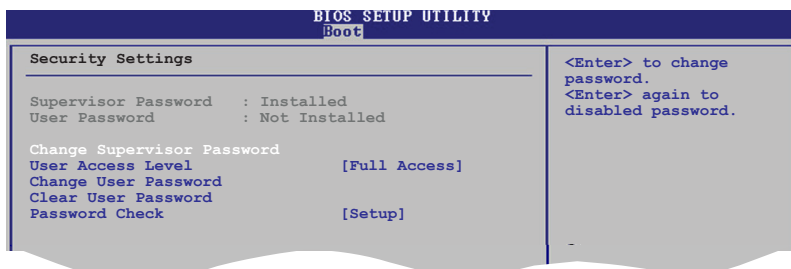To change the supervisor password, follow the same steps as in setting a user password.

To clear the supervisor password, select the Change Supervisor Password then press <Enter> twice. The message "Password Uninstalled" appears.

If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section "4.3 Jumper" for information on how to erase the RTC RAM.

After you have set a supervisor password, the other items appear to allow you to change other security settings.

```
                            BIOS SETUP UTILITY
                                   Boot

   Security Settings                                    <Enter> to change
                                                        password.
   Supervisor Password    : Installed                   <Enter> again to
   User Password          : Not Installed               disabled password.

   Change Supervisor Password
   User Access Level                  [Full Access]
   Change User Password
   Clear User Password
   Password Check                     [Setup]
```

User Access Level [Full Access]

This item allows you to select the access restriction to the Setup items. Configuration options: [No Access] [View Only] [Limited] [Full Access]

No Access prevents user access to the Setup utility.

View Only allows access but does not allow change to any field.

Limited allows changes only to selected fields, such as Date and Time.

Full Access allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a User Password:

1.   Select the Change User Password item and press <Enter>.
2.   On the password box, key in a password containing up to six letters or numbers, or both, then press <Enter>. .
3.   Confirm the password when prompted.

The message "Password Installed" appears after you set your password successfully.

To change the user password, follow the same steps as in setting a user password.
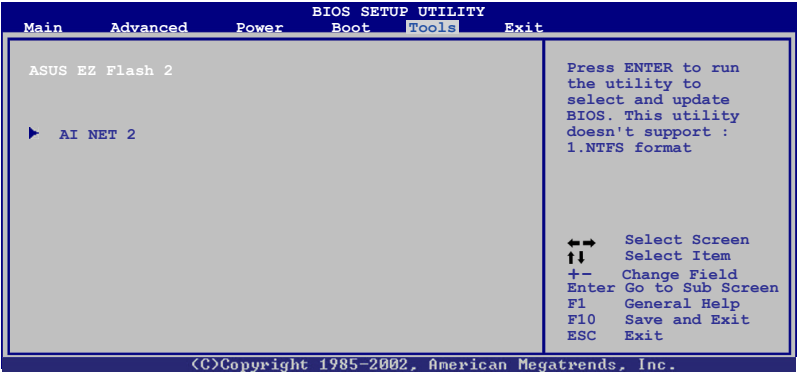
Clear User Password

Select this item to clear the user password.

Password Check [Setup]

When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]
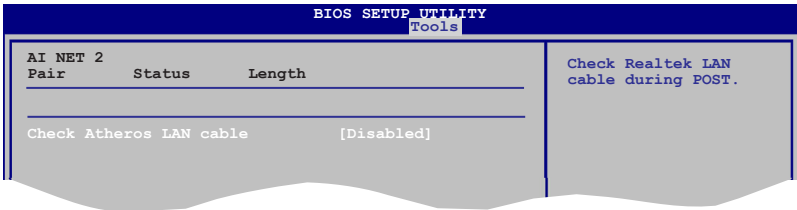
4.7   Tools menu

The Tools menu items allow you to launch special functions. Select an item then press <Enter> to display the sub-menu.

```
                    BIOS SETUP UTILITY
  Main    Advanced    Power    Boot    Tools    Exit

  ASUS EZ Flash 2                               Press ENTER to run
                                                the utility to
                                                select and update
  ▶  AI NET 2                                   BIOS. This utility
                                                doesn't support :
                                                1.NTFS format



                                                ←→   Select Screen
                                                ↑↓   Select Item
                                                +-   Change Field
                                                Enter Go to Sub Screen
                                                F1   General Help
                                                F10  Save and Exit
                                                ESC  Exit

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```

4.7.1   ASUS EZ Flash 2

Allows you to run ASUS EZ Flash 2. When you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice. See section 4.1.2 for details.

4.7.2   AI NET 2

```
                    BIOS SETUP UTILITY
                             Tools

  AI NET 2                                      Check Realtek LAN
  Pair       Status      Length                 cable during POST.


  Check Atheros LAN cable        [Disabled]
```
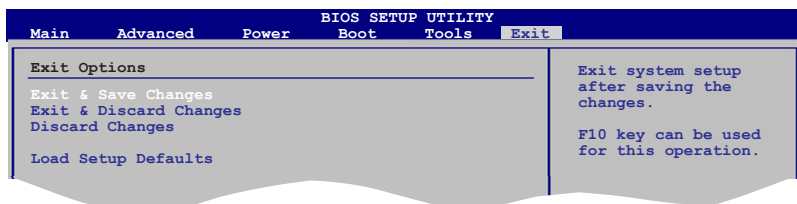
Check Atheros LAN cable [Disabled]

Allows you enable or disable checking Atheros LAN cable during POST. Configuration options: [Disabled] [Enabled]

4.8   Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.

```
                          BIOS SETUP UTILITY
    Main      Advanced      Power      Boot      Tools      Exit

    Exit Options                                      Exit system setup
                                                      after saving the
    Exit & Save Changes                               changes.
    Exit & Discard Changes
    Discard Changes                                   F10 key can be used
                                                      for this operation.
    Load Setup Defaults
```

> Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select **OK** to save changes and exit.

> If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select OK to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select **OK** to load default values. Select **Exit & Save Changes** or make other changes before saving the values to the non-volatile RAM.

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